Save the Children

# Child Survival XVI

# The Strength Project

## Strengthening District and Community Teams for Mother and Child Health in Northern Mozambique

## LQAS (Lot Quality Assurance Sampling) Midterm Survey

**Conducted August 15 – September 2, 2002**

**Memba, Nacala-a-Velha Districts**
**Nampula Province**

**Cooperative Agreement Number FAO-A-00-00-00036**

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**Acronyms / translations**

| | |
|---|---|
| *Activista* | Community health volunteer |
| AIDS | Acquired Immune Deficiency Syndrome |
| Aldeia | A small community |
| ALRI | Acute Lower Respiratory Infection |
| *Cabo* | Traditional leader, one level below *regulo* |
| *Capitão* | Traditional leader, one lever below *cabo* |
| CHT | Community Health Team |
| CS-16 | Child Survival 16 |
| DHO | District Health Office |
| DHS | Demographic and Health Survey of Mozambique |
| DIP | Detailed Implementation Plan |
| HIV | Human Immuno-deficiency virus |
| IMCI | Integrated Management of Childhood Illness |
| KPC | Knowledge, Practices and Coverage |
| *Localidade* | A sub-division of a *Posto Administrativo* |
| LQAS | Lot Quality Assurance Sampling |
| MCH | Maternal and Child Health |
| MTE | Mid Term Evaluation |
| ORS | Oral Rehydration Solution |
| ORT | Oral Rehydration Therapy |
| PHO | Provincial Health Office |
| *Posto Administrativo* | A sub-division of a district. Normally has one small office with 5 or 6 officials running it |
| *Povoação* | A smaller sized community than an *aldeia* |
| *Regulado* | Domain of *regulo* |
| *Regulo* | Traditional leader |
| SA | Supervision Area |
| SC/US | Save the Children Federation |
| TBA | Traditional Birth Attendant |
| TT | Tetanus Toxoid |
| USAID | United States Agency for International Development |

## I. EXECUTIVE SUMMARY

In October 2000, Save the Children Federation, Inc. USA (SC/US) was awarded funding by the United States Agency for International Development in Washington (USAID) for CS-16, ***The Strength Project***, aimed at reducing child and maternal mortality and morbidity in Memba, Nacala-a-Velha, Nacala Porto and Monapo Districts, Nampula Province, Mozambique.

In preparation for the Mid Term Evaluation (MTE), SC/US carried out a Lot Quality Assurance Sampling (LQAS) survey. The field team included two supervisors and eight enumerators. The team visited 114 communities in the Districts of Memba and Nacala-a-Velha – the two health districts where SC is working with the communities.

They interviewed mothers of children aged 0-23 months. Mothers were asked questions about breastfeeding, immunization, diarrhea treatment and prevention, ALRI treatment, malaria treatment, IMCI, antenatal care, delivery and family planning. Data entry and analysis were done in Excel. The results obtained from the survey will be used to determine the current situation in the target districts and to revise strategies for the final year of the project. Some key survey findings include:

**Breastfeeding:**

- Immediate and exclusive breastfeeding is above the program targets in all six SA's (supervision areas)

**Immunization:**

- In none of the six SA's was the target coverage of 55% of children aged 12 – 23 months fully immunized by 12 months of age, attained.

**Care of Illness:**

- In GerGer, Lurio and Mazua over 80%, the program target, of children were treated with ORS or community based fluids in their last diarrheal episode.
- In GerGer, Chipene and Memba, over 64%, the program target, of mothers know two or more methods of diarrhea prevention.
- Only in Memba was the target coverage of 85% of children with cough and difficult/rapid breathing treated at a health facility, attained.
- In all six SA's the percentage of mothers who sought treatment for their child's fever within 48 hours was extremely low, well under the target coverage.
- The percentage of mothers in all six SA's that know two or more danger signs that would make them take their child to a health facility has reached the target coverage.

**Maternal Care:**

- In Sede, GerGer and Chipene the target coverage of 85% of women seeing a trained health professional at least 2 times for an antenatal consult and receiving at least 2 TT vaccinations, has been reached;
- In all six SA's, the program target of 50% of women knowing 3 or more danger signs during pregnancy, was reached.
- Birth preparedness was extremely low, with none of the six SA's attaining the program target.

**Child Spacing**

- Knowledge of modern methods of family planning is low, with none of the six SA's reaching the target coverage of 50%;

- In Sede, GerGer, Lurio and Memba over 25% of mothers, above the target coverage, use a modern method of family planning to avoid becoming pregnant.

## 1. BACKGROUND

### *1. Project Area and Description*

The CS-16 Strength Project, managed by Save the Children Federation (SC/US) with funding from USAID in Washington, operates in the Districts of Memba, Nacala-a-Velha, Nacala Porto and Monapo, in Nampula Province, Mozambique (Appendix I). The project started in October 2000, with a baseline knowledge, practice, and coverage (KPC) survey. The three-year project has as its primary goal to sustainably reduce under-five mortality and maternal mortality in the two (Memba and Nacala-a-Velha) health districts[1] through achieving the following results:

- Improve the capability of the health districts to implement CS approaches and support community structures;
- Improve the capability of communities to identify and respond to their health needs;
- Increase use of key health services and improve CS practices at the household level;
- Increase the capacity of SC to achieve large scale innovative CS programs in the Southern Africa setting; and
- Inform Nampula Provincial Health Office of innovative CS strategies.

### *2. Beneficiary Population Characteristics*

Nampula Province is populated by 3,625,854 people[2] living in 21 districts. It is extremely isolated and resource poor. The majority of the population (75%) live in rural areas. 61%[3] of the female population is illiterate, 33.5% of the male population is illiterate. Only 29% overall speak Portuguese; only 8.9% of rural women speak Portuguese. The majority (over 90%) speak Macua.

### *3. Socio-economic and health conditions in the project area*

Life expectancy[4] in Nampula Province is markedly lower than the national average, at 39.9 years for both men and women. The under-five mortality rate for Nampula Province is 292/1,000 births, compared to 201 nationally. DHO staff note that death during labor or associated with birth is a leading cause for concern for women's health.

### *4. National Mother and Child Health Policies*

[1] In Nacala Porto and Monapo SCF is only working to improve the conditions of the two rural hospitals which act as referral hospitals for patients from all four Districts.
[2] 1997 re-census, per JSI in grant application
[3] 1997 DHS information
[4] Bridges to Health: Strengthening Provincial, District and Community Teams for Mother and Child Health in Nampula Province

The Ministry of Health states that[5]: The area of concentration for Saúde+ consists of Gaza, Manica, Nampula, Niassa, Sofala and Zambezia provinces. The emphasis is on the delivery of basic, essential MCH/FP services in the rural areas of these provinces using appropriate technologies and community-based delivery mechanisms. The three focus strategic objectives are:

- Increased access to essential maternal and child health and family planning services;
- Increased demand for the services;
- Strengthened management of decentralized health services delivery.

These strategies overlap with the CS-16 program objectives of improving community structures to identify and respond to their health needs and increasing the use of key health services in MCH and family planning.

### *5. LQAS (Lot Quality Assurance Sampling) Survey Objectives*

The LQAS survey has been in use for about 75 years for industrial quality control purposes. In the last 15 years LQAS has been adapted for use by community health practitioners to assess coverage in communities with programs in maternal and child health, family planning, and HIV/AIDS; to assess the quality of health worker performances, and can be used to assess disease prevalence[6].

The principal aim of this particular survey is to provide indicator estimates. The survey used a questionnaire which only asks questions about those indicators that would be measured using the LQAS method, as determined in the DIP (Detailed Implementation Plan). The results obtained from the survey will be used during the mid-term evaluation to evaluate the current situation in terms of mother and child health and will be used to plan project priorities for the remaining project time.

## IV. METHODOLOGY

### *1. Survey Questionnaire*

The consultant designed the survey questionnaire, basing it on the baseline KPC conducted in December 2000. The 2001 DIP stated methods of data collection for the key indicators, and it is only those indicators that are to be measured using LQAS that are included in this survey.

The questionnaire, for women with children aged 0 – 23 months of age, totaled 41 questions and covered 10 topics:

| # | | TOPIC | TARGET GROUP – CHILD'S AGE | OTHER DETERMINING FACTORS |
|---|---|---|---|---|
| 1. | | Early breastfeeding (4) | 0-23 months | |

[5] Amplified Program Description for the Sector Assistance for Upgrading and Developing Health Services (SAUDE+) 1998

[6] As stated in the Trainers Guide for Baseline surveys and regular monitoring, December 2001

| # | | TOPIC | TARGET GROUP – CHILD'S AGE | OTHER DETERMINING FACTORS |
|---|---|---|---|---|
| 2. | | Exclusive breastfeeding (3) | 0-5 months | |
| 3. | | Immunization (2) | 12-23 months | |
| 4. | | Diarrhea (5) | 0-23 months | Diarrhea in last 2 weeks |
| 5. | | ALRI (3) | 0-23 months | Has ever had a cough with difficult/rapid breathing |
| 6. | | Malaria (4) | 0-23 months | Fever in last 2 weeks |
| 7. | | IMCI – general care seeking (2) | 0-23 months | |
| 8. | | Antenatal control (8) | 0-23 months | |
| 9. | | Delivery (4) | 0-23 months | |
| 10. | | Child Spacing (6) | 0-23 months | Mother doesn't want anymore children in next 2 years |

Each complete questionnaire took between 20 to 30 minutes[7] to complete. Each particular indicator (please see appendix II for list of key indicators) had its own page (or pages) of questions. On the first page of the questionnaire there are a set of boxes relating to each of the indicators. After completing the first questionnaire in a community the enumerator marked which of the questions had been completed according to the determining factors for each indicator. Following this guide s/he could then see which parts of the questionnaire still need to be completed and then could find appropriate mothers with whom to conduct the remaining questions.

The LQAS questionnaire was translated from Portuguese into Macua by SC staff and the LQAS team. Questions are all written only in Macua; responses are written on the form in Portuguese[8] (Appendix III, Surveys in Macua/Portuguese, Portuguese, English).

### *2. Sample Size*

The sample size for the survey is pre-determined by the LQAS survey technique. The two districts, Memba and Nacala-a-Velha, were divided up by their supervision areas, based on the six *Postos Administrativos* [9].

The LQAS technique states that: 'the overall goal we are all aiming for is to make the best use of limited resources by setting priorities, for indicators and for supervision areas, and that the LQAS technique is one of the most efficient ways to collect the coverage information needed to

[7] Usually this type of questionnaire is faster, but the reality in the field is that things take longer, and interviewers always work at the pace of the women being interviewed.
[8] Macua is the spoken language of Nampula Province, but Portuguese is the more common written language. Therefore, the decision was made to write questions in Macua, so that they would be spoken exactly as read, but put the responses in the more commonly read language to reduce error.
[9] Posto Administrativo is an area in a district within which there are a number of locales and communities. Each Posto Administrativo has a small office with one or two officials overseeing the area.

establish such priorities, a sample size of 19 is sufficient to distinguish between high and low coverage'[10]

### *3. Sampling Frame*

A two-stage cluster sampling method was used to select the 19 communities per supervision area visited for the LQAS study.

Population data was obtained from the District Administrations and is based on information gathered in the 1997 census. The census data gives figures for the numbers of masculine, feminine and total populations and is given at District level, *Posto Administrativo* level, *Localidade*[11] level and *aldeia / povoação*[12] level. The information below shows total district populations according to the 1997 census:

| District | Total district population according to 1997 census[13] |
|---|---|
| Memba | 188,992 |
| Nacala-a-Velha | 87,131 |

The District Administrations in both Memba and Nacala-a-Velha have incomplete population information. Since the 1997 census, communities have disappeared or names have changed. To have as complete a list of communities as possible SC staff took the list of communities from which *activistas*[14], working with SC, were chosen. These communities all had between 50 and 100 households. Assuming that each household contains five people, we estimated a population of 300 inhabitants for these communities. This information was added to the census information and sent to the District Administrations to be verified.

The *povoações* were placed in their respective *Posto Administrativos* (which for the purposes of the LQAS are acting as supervision areas) and *Localidades*. There was insufficient reliable information available to group all the communities by *regulado*[15] in the Memba district.

To make the choice of communities random, SC assumed equal population within each *povoação* for a given *localidade*, prepared a list of all, and set up a sampling interval decided by dividing the total population by 19. A random number was chosen for each district using the random number calculation in Excel. The random number and the sampling interval were added together and 19 communities were chosen for each *Posto Administrativo* (Please see Appendix IV, Memba and Nacala-a-Velha 2002 clusters).

During the course of the fieldwork it was discovered that some of the communities randomly chosen didn't exist and that others were not accessible by car[16]. The supervisors informed the

[10] P.23 - A Trainers Guide for Baseline Surveys and Regular Monitoring
[11] Localidade is a smaller area within a Posto Administrativo. There are only a few Localidades within each Posto Administrativo.
[12] Aldeia is a small community, Povoação is a smaller sized community
[13] Total communities information for Memba and Nacala-a-Velha, using 1997 census data and SCF community data (see appendix V)
[14] Activista - a community health volunteer
[15] Regulado – traditional communities, led by a regulo; the Mozambican government has its own geographical divisions, but works with these traditional systems.

consultant, who told them to visit the next community that appeared on the original list of community data. In the two *Posto Administrativos*, Lurio and Chipene, where there were less than 19 communities listed in total, the consultant told them to re-visit the largest ones. On returning to these larger communities the team found that neighboring communities had not been included in the original information. They took the decision to go to one of these unlisted communities instead of re-visiting a community where an interview had already been conducted.

### *5. Survey Preparation*

During the two weeks before the start of the survey, the consultant and SC staff worked to gather population data in liaison with administrative and health officials. The District Administrators and *Posto Administrativos* were informed, by letter, of the survey. In the days before the training SC drivers started distributing letters to the *regulos* informing them of the communities within their *regulado* to be visited and the date.

A consultant was contracted to write the questionnaire, carry out the survey preparation, training, supervision and report writing. The consultant carried out the training in the field as well as supervising two days of fieldwork and carried out the data entry. The Program Manager oversaw all the work, with regular meetings to discuss progress.

### *6. Training*

A three-day training was held in Nacala Porto with 10 people participating[17]. The training consisted of reading through and practicing the form, a thorough review of how the interviews should be conducted and the responsibilities of enumerators and supervisors. The first part of the training was carried out with all the participants acting as enumerators and practicing the questionnaires in a classroom setting. Towards the end of the training period practice interviews were carried out in a nearby community. That afternoon the teams and consultant met to discuss any problems and to review areas where there were still doubts.

The 10 participants were divided into two teams. Supervisors were chosen based on previous survey experience and their performance during the training. Each team consisted of a supervisor and four enumerators (Please see Appendix VI – Survey teams). The following table gives a breakdown of the background of the participants in the survey:

| | Supervisors | Enumerators |
|---|---|---|
| SC staff | | 1 |
| Former SC staff | 1 | 1 |
| Activistas | 1 | 2 |
| Memba people | | 2 |
| Nacala Porto people | | 2 |
| Total | 2 | 8 |

The SC Nacala administration staff handled logistics and transportation.

[16] Please see appendix IV, cluster samples for Memba for a list of these communities and the communities visited in their place.
[17] Of whom 8 had participated in at least one KPC. SC has carried out 1 KPC in the past year.

## *6. Field Work*

The LQAS survey team visited 114 communities in the six *Posto Administrativos*. Initial survey interviews were conducted between August 15 and 28, 2002. In Nacala-a-Velha between four and nine communities were visited each day. In Memba a maximum of five communities a day were visited. One enumerator was dropped off in each community and left to carry out the work. The car dropped off the other three enumerators and then depending on distance either stayed with the last person dropped off or returned to the first person and picked up the enumerators one by one. The supervisor stayed with a different enumerator each day[18]. In some cases a community was chosen twice because of its size. In these cases the enumerator carried out two sets of interviews.

In all cases local leaders, usually a *cabo* or *capitão* accompanied the enumerator. Occasionally a *regulo* accompanied the enumerator as well. After arriving in the community and meeting with the local leader, the enumerator asked to be taken to the geographic center of the community. At this point a pen was spun on the ground to determine the direction the enumerator would take. A random number, 2,[19] was used to identify the first house where the enumerator would begin interviewing. The enumerator had to conduct a complete questionnaire in the first house s/he visited. After completing the interview s/he followed the guide on the first page to determine who else needed to be interviewed in the community.
Unfortunately a small amount of bias entered the survey because of the immunization questions. Only mothers of children with vaccination cards were asked about immunization. If a child didn't have a card the question was skipped. Another child had to be found who had a card, so these questions could be answered. With this same child the enumerators completed any other questions that needed answering.

On average two questionnaires were conducted per community.

Many of the communities were very spread out, with enumerators having to walk 10 or 20 minutes between houses. Some of the women took a long time to answer questions, either because they did not fully understand the first time the question was asked or because they were shy. Enumerators waited for the women to reply in their own time, not rushing them, so they wouldn't feel under pressure to reply.

In some *Posto Administrativos* distances between communities were great and much of the day was spent travelling.

To verify the ages of children, the enumerator requested the children's health card. If there was no health card, and the mother did not know the birthdate of the child, the team used an events calendar to determine the month and year of the child's birth. (Please see Appendix VII – Events Calendar). In the cases that an exact day of birth was not known, the child's birthday was considered to be the 15$^{th}$ of the month. In the event that the mother had two children less than 24 months old, the interview was directed to the younger of the two children.

[18] At the beginning of the survey the supervisors stayed with the two enumerators who had no previous experience. Thereafter the supervisor stayed with the car dropping off enumerators in each community and then picking up each enumerator, only leaving the community after he had checked the interviews conducted there.
[19] Chosen by using the "RandBetween" function in Excel.

Each supervisor checked the quality of interviews. He filled in the compilation questions[20], and reviewed all questionnaires prior to leaving the community. The supervisors reviewed each others work every evening.

One team of enumerators remained in the field for a further six days after the planned time frame. They returned to the three Posto Administrativos (Lurio, Chipene and Mazua) to complete the work where there had been problems with inaccessible communities and communities that didn't exist.

### *7. Data Processing and Analysis*

The consultant entered data from the survey in Excel, SC staff were originally intended to enter the data but at that time were involved with other work. (Appendix VIII, diskette of original data). The decision to use Excel was based on the ease with which SC staff would be able to use the program as all had previous experience with Excel. The consultant cleaned the data. The data was analyzed in Excel. The LQAS system uses a Decision Rules table to calculate the minimum number of people who must have received an intervention in order to safely conclude that a supervision area has reached average or target coverage (see appendix IX).

## III. RESULTS

Summary tabulation tables for the LQAS are included in Appendix X.

### *1. Breastfeeding (appendix X, pages 1 and 5)[21]*

*Immediate Breastfeeding*

The percentage of mothers with children aged < 24 months who immediately breastfed their children (within eight hours of giving birth) is above the average and target coverage in all six supervision areas.

*Children receiving colostrum*

In three of the supervision areas the percentage of children aged < 24 months who received colostrum is above both the average and target coverage for the project.

[20] The questionnaire was set up so that there were questions for the mothers and answers from these were used to complete the compilation questions. The only information entered on the computer were those answers recorded for the compilation questions.

[21] For those indicators concerned with caregiver behavior (breastfeeding, IMCI, diarrhea prevention) there was no specific target coverage defined. A target coverage was calculated using the results from the baseline Memba KPC and the final Nacala-a-Velha KPC. The percentages used are therefore those showing the situation in the field at the beginning of the project. The results of the LQAS for these indicators show by how much the project has improved since the start of the project or if it has worsened.

In the other three areas, Lurio, Mazua and Memba, the percentage is above the average but below the target coverage. SC still needs to concentrate on promoting the message that babies need colostrum, in these three areas.

*Exclusive breastfeeding*

For all six supervision areas the percentage of children < 6 months old who exclusively breastfeed is significantly higher than the target coverage of 14% for the program. The results show that over 40% of children aged < 6 months exclusively breastfeed.

### *2. Immunization (appendix X, page 6)*

In none of the six supervision areas has the percentage of children aged 12 – 23 months being fully immunized by 12 months of age reached the target coverage of 55%. In GerGer, Lurio, Mazua and Memba the figure is extremely low, with results ranging between 0% in GerGer to 11% of children in Mazua and Memba. SC needs to concentrate strongly on improving these very low figures.

### *3. Diarrhea (appendix X, page 1)*

*ORT use during a diarrheal episode*

In Sede, Chipene and Memba the percentage of mothers who treated their child with ORT during a diarrheal episode is less than the target coverage of 80%. However, all supervision areas surpass the average coverage. The two areas where SC needs to pay most attention on ORT use are Chipene and Memba, which had the lowest results, 65%, for target coverage.

*Diarrhea prevention*

In Lurio the percentage of mothers knowing at least two methods of preventing diarrhea is lower than the average and target coverage.

In Sede and Mazua the average coverage has been surpassed but not the target coverage. SC needs to focus on improving its strategy of diarrhea prevention education to mothers in the three areas of Lurio, Sede and Mazua.

### *4. Acute Lower Respiratory Infections (appendix X, page 2)*

The percentage of mothers who sought treatment in a health facility for a child with a cough and difficult/rapid breathing, was below average coverage in:

- GerGer,
- Lurio and
- Chipene.

It was below target coverage in:
- Sede,
- GerGer,
- Lurio,
- Chipene and
- Mazua.

SC should focus more attention on Sede and Mazua, which had the worst results but should not neglect the areas of GerGer, Lurio and Chipene, which also need some improvement in this indicator.

### *5. Malaria (appendix X, page 2)*

All the six supervision areas were below the target coverage for malaria. GerGer was also below the average coverage.

Significantly less than the 80% of mothers that the project is aiming for, sought treatment for fever within 48 hours in all six areas.

### *6. IMCI (appendix X, page 2)*

The percentage of mothers who know two or more danger signs that would make them take their child to a health facility has exceeded both the average and target coverage in all the supervision areas.

### *7. Antenatal Care (appendix X, pages 2 – 3)*

*Antenatal Care Coverage*

The percentage of mothers who visited a trained health professional for an antenatal consult is below average in Lurio and Mazua.

The percentage of mothers seeing a trained professional at least twice for an antenatal consult is below target coverage in:
- Memba,
- Lurio and
- Mazua

SC will need to focus its efforts on encouraging two or more antenatal consults with a trained health professional in Lurio, Mazua and Memba.

*Knowledge of danger signs during pregnancy, delivery and post partum*

The two supervision areas where SC should focus attention on this indicator are Mazua and Memba. In both these areas the percentage of mothers who know three or more danger signs is above the target coverage but below the average coverage.

In the other four areas knowledge of danger signs is good and in three supervision areas – Sede, GerGer and Lurio – significantly higher than the average coverage of 72%, which is greater than the program target.

### *8. Delivery (appendix X, page 4)*

*Trained personnel assisted at delivery*

The percentage of mothers who had trained health personnel assisting at the delivery is below the target coverage of 50% in:

- Lurio,
- Chipene and
- Mazua

In Lurio less than 34% of mothers, the average coverage, had trained personnel assisting at the delivery.

These three areas should be a priority for SC.

*Birth Plans*

The target coverage for this indicator is so low that the decision table can't be used to work out the decision rule.

In all supervision areas the percentage of mothers who prepared three or more birth plans is extremely low:

- No mothers made three or more birth plans in Mazua and Sede;
- One mother made three or more birth plans in GerGer, Lurio and Memba

There is a strong need for SC to concentrate its attention on this indicator in all supervision areas.

### *9. Child Spacing (appendix X, page 4)*

*Knowledge of modern methods of Family Planning*

None of the supervision areas reached the target coverage for the program. However, in all the supervision areas the percentage of mothers who know at least two methods of modern family

planning is above the average coverage. This is an indicator in which SC will need to focus a lot of attention.

*Use of modern methods of family planning*

Chipene and Mazua are the only two supervision areas where the percentage of mothers who don't want another child in the next two years and who use a modern method of family planning is below the target coverage.

## IV. DISCUSSION – ACTION PLANS AND GOALS

### *Breastfeeding*

A high percentage of mothers in all six supervision areas (SA´s) reported breastfeeding within eight hours of giving birth; a result which surpasses the targets set by the program. Immediate breastfeeding is a good indicator that colostrum was given. However, in the three SA´s of Lurio, Mazua and Memba, less than the target percentage of mothers reported giving colostrum. SC should look at why, even though some mothers start breastfeeding immediately, they are still not giving colostrum. SC needs to work extensively with TBAs (Traditional Birth Attendants) and CHTs (Community Health Teams) in Lurio, Mazua and Memba encouraging them to actively promote the importance of colostrum.

In all the SA´s, the average coverage of mothers exclusively breastfeeding was exceeded. Even so, SC should continue to work hard on promoting this important message.

### *Immunization*

SC has set high goals for full immunization. It is important that children are fully immunized by 12 months of age to give them a good start in life. However, in none of the six SA's did the percentage of children aged 12 – 23 months come anywhere near the program target. Part of the problem could be due to an interruption in supply to the health facilities of certain vaccinations, which would lead to children not receiving their vaccinations at the correct time. SC is already working in both Districts of Nacala-a-Velha and Memba, providing transport for Mobile Brigades who carry out vaccinations in the communities. One of the strategies for this program is to improve the capabilities of health districts to implement CS approaches, which includes immunization. SC should look at how it can work with the DHOs to improve the supply of vaccinations, making it more reliable.

### *Diarrhea*

The results from the LQAS are encouraging on the use of ORT to treat diarrhea, with all six SA´s exceeding the average coverage. In Sede, Chipene and Memba, SC still needs to

reinforce the message that ORS or community based fluids are the most effective ways of diarrhea treatment.

There is still a lack of knowledge about the prevention of diarrhea. In Sede, Lurio and Mazua, the target percentage of mothers knowing at least two methods of prevention has not been reached. CHT´s are an ideal means of working with communities to increase health knowledge; and SC should focus on encouraging these CHT´s in the three SA´s falling behind on coverage to promote ways of preventing diarrhea.

### *Acute Lower Respiratory Infections*

There is reluctance to seek treatment at a health facility for a child with an acute lower respiratory infection. Only Memba has exceeded the program target coverage of 85% of mothers seeking treatment at a health facility. In the other five SA´s, Sede, GerGer, Lurio, Chipene and Mazua, a lot of work needs to be done by SC on encouraging mothers to go to a health facility. In GerGer, Lurio and Chipene, the average coverage had been exceeded and means that the message is being promoted. In Sede and Mazua, SC should look to see if the reason for the lower figures is due to lack of health facilities, or distance from a health facility, or whether it is because the message is not being actively promoted.

### *Malaria*

In none of the six SA´s was the target coverage of 80% reached. There is obviously a strong need for SC to be doing more to encourage compliance with this indicator. SC should look at why so few mothers seem to be seeking treatment for a child with a fever. Or if they do so, why they take longer than 48 hours. Traditional doctors and CHT´s are already conducting community trainings on various health messages. SC should work with them to focus on promoting malaria treatment within 48 hours.

### *IMCI*

SC has been very successful in the education of danger signs that necessitate taking a child to hospital. In all six SA´s, the target coverage was exceeded, with 82% and more of mothers in each SA knowing two or more signs.

This message should continue to be promoted, but it is not a priority indicator in comparison with others.

### *Antenatal Care*

In Lurio and Mazua, less than the average and target coverage of mothers seeing a trained health professional for antenatal consults, was attained. This could be due to the difficulties in reaching health facilities, or a lack of trained staff, which is an area that SC could investigate.

When looking at the number of times the health professional was visited, the figures for Memba show that less than the target coverage (85%) of mothers visited two or more times. SC needs to be looking at why in Memba more than the target percentage of mothers visited a health professional but did so less than the optimum number of times.

Evidently with the results from Lurio, Mazua and Memba for visits to a health professional, being less than the program target, there is also a lower than target coverage for TT vaccinations. SC must focus its attention improving antenatal visits in these three SA´s, which should lead to better coverage for TT vaccinations.

Knowledge of danger signs during pregnancy is extremely high in all six SA's. The results show that in Mazua and Memba the average coverage (calculated by taking the results for each SA and dividing it by the total number of communities visited) wasn't reached which means that although the program coverage was attained, knowledge was better than expected in four of the six SA's. SC should look at why those four areas are so much more knowledgeable – is it through the work of CHTs, or TBAs – and then apply the same strategies to Mazua and Memba.

### *Delivery*

Birth preparedness is extremely low. SC still needs to focus a lot of attention on this particular area. SC should wait to see the results from the preliminary investigation on clean birth education. If this shows that education has an impact on birth preparedness behavior, then SC should expand the education campaign over the six SA's.

Interestingly, even though birth preparedness is low, in Sede, GerGer and Memba, the percentage of mothers who responded that they had a trained health professional attending delivery exceeded the target coverage. SC should look at the reason for this to find out if it is because of better access to health facilities or another reason. Lurio, Chipene and Mazua are generally regarded as the more remote areas with less health resources. This could explain some of the results. SC needs to look at why there appear to be so few TBAs attending deliveries in these more remote areas.

### *Child Spacing*

Knowledge of modern methods of family planning is low. In all six SA's the average coverage was exceeded, but the program targets have not been reached. SC would like to see 50% of women knowing two or more modern methods.

The percentage of women who use a modern method is also low. However, in four SA's the program target has been surpassed. In Chipene and Mazua, where the target was not reached, SC needs to focus on increasing knowledge of modern methods and increasing the use of modern methods to prevent pregnancy.

Working with the TBAs to enforce this message at community trainings could be one way in which to expand the knowledge and use of modern family planning methods.

## V. CONCLUSIONS AND RECOMMENDATIONS

SC has been very successful in attaining, and even surpassing target coverage in most, if not all, SA's for the: breastfeeding, IMCI, knowledge of danger signs during pregnancy and knowledge of modern methods of contraception indicators. SC should continue to stick with their current strategy of promoting these important health messages through community mobilization by CHT's, TBA's and traditional doctors. SC needs to build upon the good work already conducted to try and reach more mothers.

For those indicators with poor results in half, or more, of SA's: Immunization, prevention of diarrhea, malaria treatment within 48 hours, birth preparedness, ALRI treatment at a health facility and at least 2 antenatal consults with a trained health professional; SC needs to do a lot more work.

SC's strong background in community based trainings will play a vital part in improving the percentage coverage of those indicators where there were low results. SC needs to look at the SA's that were more successful in attaining higher coverage for certain indicators and find out why they had this success. If it was due to any difference in strategies, or other influences, SC should look at how these can be implemented in other SA's to improve the situation of those indicators with low coverage.

Community mobilization and training's carried out by CHTs, TBAs and traditional doctors would appear to be necessary in promoting the health messages of the project. SC needs to ensure that in the particular SA's with indicators that have low results, priority is given during the community training's to those messages.

SC should work with the DHOs to improve the systems by which health facilities in the districts monitor and order their vaccine stocks.

## VI. SURVEY FEEDBACK

The report will be used during the mid term evaluation to revise strategies for the final year of the project. The report will be translated into Portuguese and distributed to the PHO and DHOs. Survey findings will be presented during the next PMT meeting. The meeting is attended by representatives from the DHOs of each of the six districts, from the PHO and from JSI. Facilitators at the meeting will be local and regional members on the Save staff. During the PMT meeting, the team may revise some project priorities based on the LQAS results.

It will be available at the provincial SC office for interested individuals to borrow and read. The survey database is available on diskette in Excel 97.

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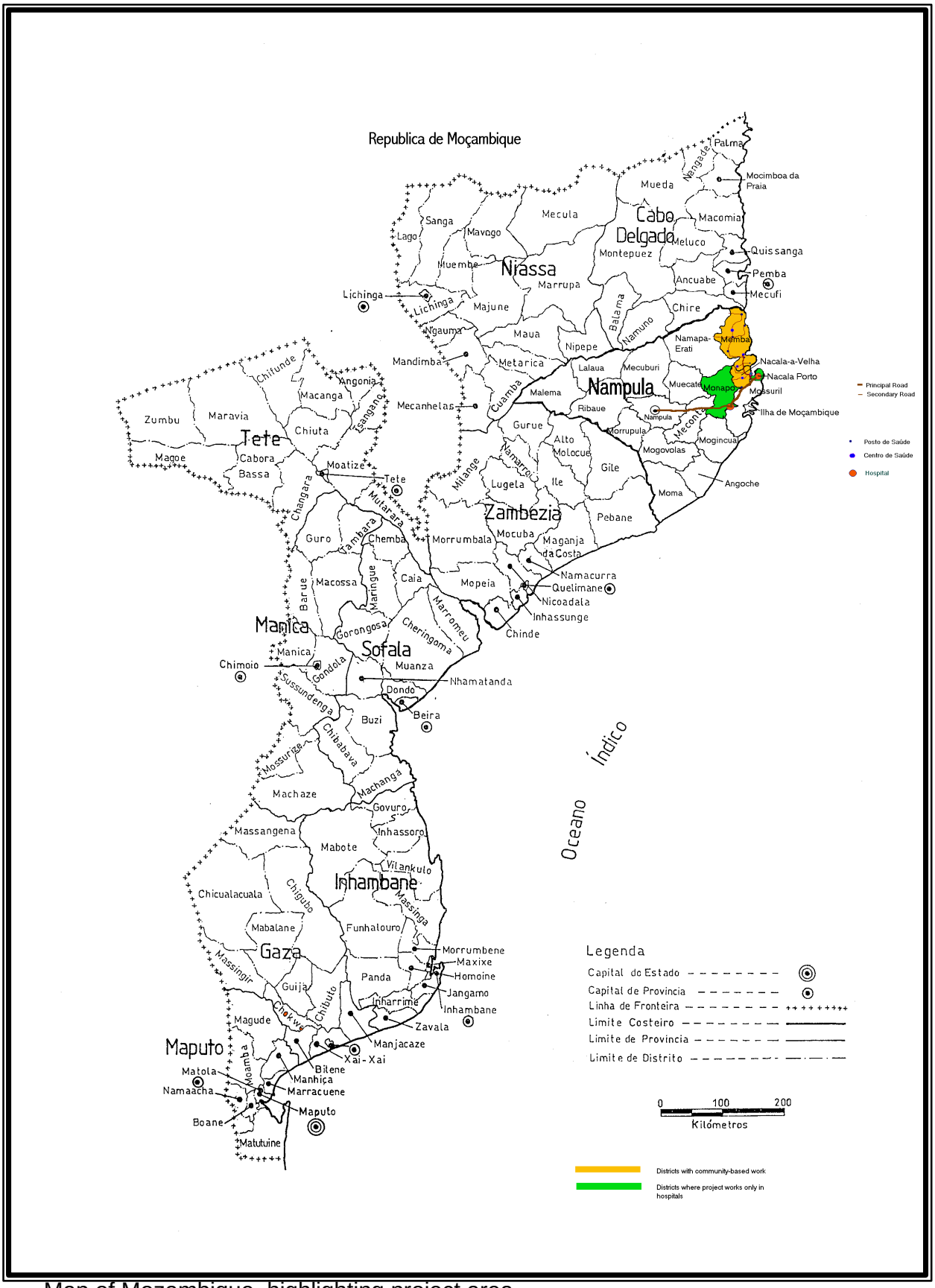
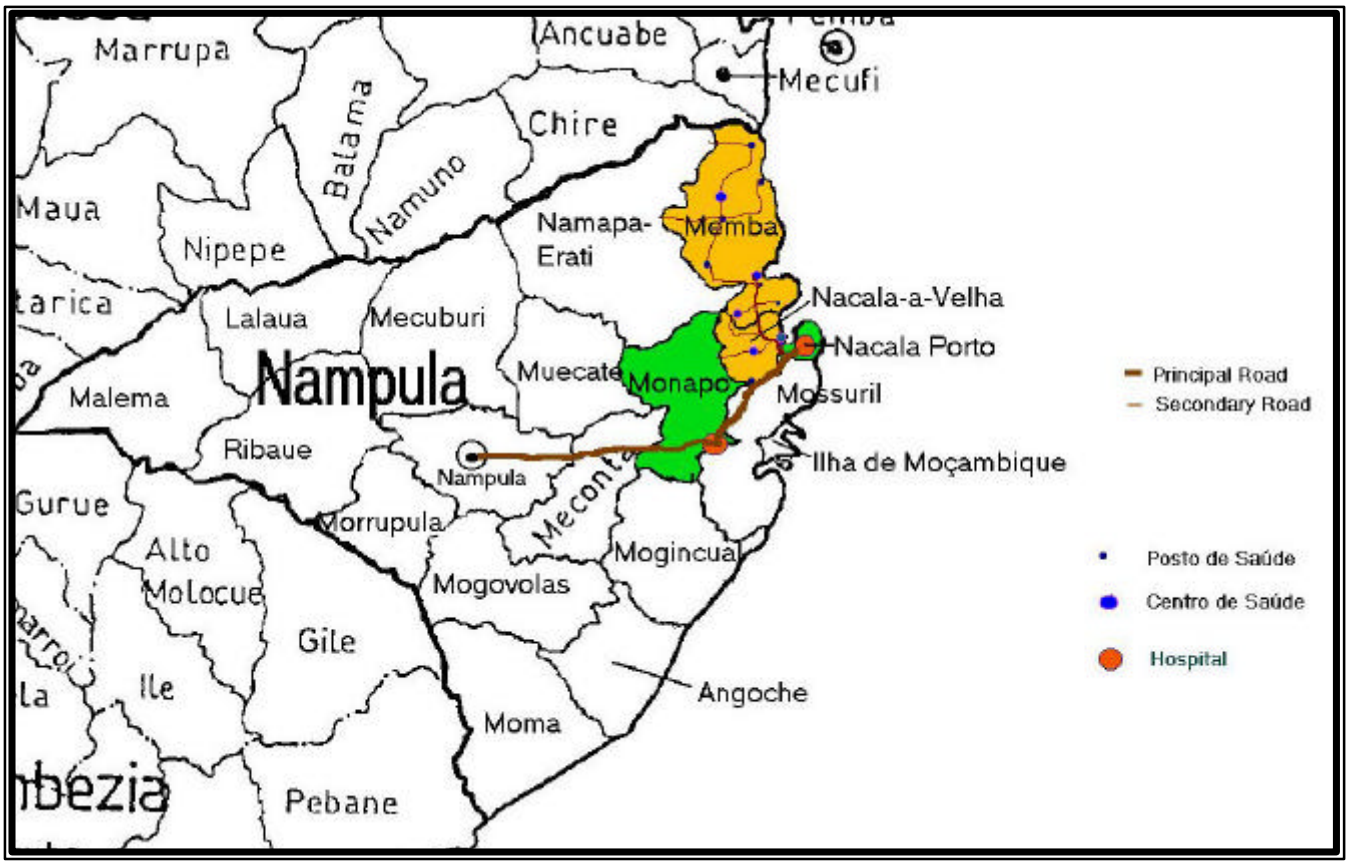
# Appendix I

# Maps of Mozambique showing Project area




Map of Mozambique, highlighting project area.




Map of Nampula Province, highlighting project area.

# Appendix II

# Key Indicators

**Table 1: CS-16 Progress Towards Achieving End-of-Program Objectives**

| # | End-of-Program Objectives/Indicators | Baseline | Mid-term |
|---|---|---|---|
| 1 | 55% of children 12-23 months will be fully immunized by age 12 months baseline. | N-32% M-34% | N-11% M-13% T-12% |
| 2 | 80% of mothers with children < 24 months with fever in previous 2 weeks sought care within 48 hours | N-57% M-66% | N-30% M-34% T-32% |
| 3 | 85% of mothers with children < 24 months with cough and difficult/rapid breathing in previous 2 weeks sought care within 48 hours | N-64% M-73% | N-54% M-67% T-61% |
| 4 | 80% of mothers with children < 24 months with diarrhea in previous two weeks who managed the diarrhea with ORT (ORS or community-based oral rehydration fluids such as watery porridge) | N-66% M-67% | N-67% M-62% T-64% |
| 5 | Percent of women with children < 24 months who reported knowing at least two ways of preventing diarrhea | N/A | N-56% M-50% T-53% |
| 6 | Percent of women with children < 24 months who reported knowing 2 IMCI danger signs | N/A | N-86% M-73% T-79% |
| 7 | 50% of births attended by trained personnel | N-34% M-38% | N-51% M-28% T-39% |
| 8 | 85% of women have at least two antenatal visits with trained health personnel during their last pregancy | N-77% M-74% | N-74% M-55% T-64% |
| 9 | 80% of women with children < 24 months will have received at least 2 doses of tetanus toxoid during their last pregnancy | N-30% M-62% | N-74% M-42% T-57% |
| 10 | 80% of women with children < 24 months wiill know at least 3 pregnancy-related danger signs | N-18% M-44% | N-95% M-57% T-75% |
| 11 | 10% of women will have had a birthplan (3 of 5 components) during their last pregnancy. | N-0% M-0% | N-2% M-5% T-3% |
| 12 | 25% of women with children <24 months who do not wish to have another child in the next two years will be using a modern method of contraception | N-18% M-15% | N-18% M-12% T-15% |
| 13 | 50% of women with children <24 months will know at least two modern methods for childspacing | N-24% M-37% | N-28% M-23% T-25% |
| 14 | Percent of women with children < 24 months who reported giving colostrum to their children | N/A | N-79% M-70% T-74% |
| 15 | Percent of women with children < 24 months who reported initiating breastfeeding for their last child within 8 hours of birth | N/A | N-86% M-75% T-80% |
| 16 | Percent of women with children <= 6 months who reported giving their children only breastmilk | N/A | N-30% M-43% T-37% |

# Appendix IIIa/b/c

# Questionnaire in Macua, Portuguese and English

**Save the Children, Nampula**

**LQAS, Memba and Nacala-a-Velha, July - August 2002**

## Introduction --

**Hello. We are from Save the Children Health the Strength Project, a health project, and we would like to ask you some questions about your child´s health and your own health care. We would be very grateful if you could spend some time answering these questions. I will not write down your family name, and everything you tell me will be kept strictly confidential.**

**Also you are not obliged to answer any questions you don´t want to, and you may withdraw from the interview at any time. May I continue?**

| SUPERVISOR: | Enumerator: |
|---|---|

ID number: ____

Community name: ____

District: ____

Reviewed: ____

Reviewed on comp.: ____

Reviewed again: ____

Mother´s first name: _____

Mothers age (in years) ____

Name of child aged under 24 months: _____

Child´s date of birth ____ / ____ / ____

DD / MM / YY

Child´s age (in completed months) ____

Sex of child: Masculine 1

Feminine 2

## Category of interview

| | | | |
|---|---|---|---|
| Early breastfeeding | | (0 - 23 months) | page 2 |
| Exclusive breastfeeding | | (0 - 5 months) | page 3 |
| Vaccinattion | | (12- 23 months) | page 4 |
| Diarrhea (in last 2 weeks) - Treatment | | (0 - 23 months) | page 5 |
| Diarrhea (in last 2 weeks) - Prevention | | (0 - 23 months) | page 5 |
| ALRI (at any time had cough with difficult breathing) | | (0 - 23 months) | page 6 |
| Malaria (fever in last 2 weeks) | | (0 - 23 months) | page 7 |
| IMCI | | (0 - 23 months) | page 8 |
| Antenatal + delivery | | (0 - 23 months) | page 9 - 11 |
| woman doesn't want another child in next 2 years | | (0 - 23 months) | page 12 - 13 |

## BREASTFEEDING - early breastfeeding

## Age 0 - 23 months

| | | | skip | skip |
|---|---|---|---|---|
| 1 | **Have you ever breastfed (name)?** | yes | 1 | |
| | | no | 0 **>--8** | |
| 2 | **How long after delivery did you start to breastfeed?** | Within the first hour | 1 | |
| | | In the first 8 hours | 2 | |
| | | after the first 8 hours | 3 | |
| | | DK / remember | 4 | |
| 3 | ***SUPERVISOR:*** | answer = 1 or 2 | 1 | |
| | | answer = 3 or 4 | 0 | |
| | | skipped this question | S | |
| 4 | **Did you give (name) the colostrum (yellow fluid that comes before the first milk)?** | yes | 1 | |
| | | no | 0 | |
| | | don't know / remember | 2 | |
| | | skipped this question | S | |

## BREASTFEEDING - exclusive breastfeeding — Age 0 - 5 months

| | | skip |
|---|---|---|
| 5 | **Are you currently breastfeeding (name)?** | |
| | yes | 1 |
| | no | 0 **>--8** |
| 6 | **What did you feed your child from yesterday morning to today morning?** | |
| | breastmilk | yes 1 no 0 |
| | water | yes 1 no 0 |
| | **other liquids such as:** juice, formula milk, sugar water, tea | yes 1 no 0 |
| | porridge | yes 1 no 0 |
| | **other solid food such as:** mathapa, papaya, corn, rice, pumpkin, carrots, meat, fish, beans, food made from oil/fat/margarine | yes 1 no 0 |
| | _____ Other (specify) | |

**7** ***SUPERVISOR:***

| | |
|---|---|
| breastmilk = yes, all others = no | 1 |
| any from water - solid food, or other = yes | 0 |
| is 6+ months | S |
| skipped this question | S |

**Note:** medicine doesn´t count as other liquid 7 food

skip skip

## IMMUNIZATION

## Age 12 - 23 months

Confirm that child is 12+ months old

skip

**8 Do you have a card where (name´s) vaccinations are recorded?**

If 'yes': **Can I see it?**

| | | |
|---|---|---|
| Yes, seen | 1 | |
| Yes, not seen | 2 | **>--10** |
| Never had | 3 | **>--10** |
| is < 12 months old | 4 | **>--10** |

1 -- Write the date of birth

2 -- Copy dates for each vaccination written in card

3 -- Write `44´ in the day column if the card shows that a vaccination was given but no date is recorded.

4 -- Write `00´ if nothing is recorded for a vaccination

5 -- supervisor: escrever a idade ao receber cada vacina

| | **Day / Month / Year** | **5 - age in completed months** |
|---|---|---|
| **1. Date of birth:** | _____ / _____ / _____ | |
| **OPV0:** | _____ / _____ / _____ | |
| **BCG:** | _____ / _____ / _____ | |
| **DTP 1:** | _____ / _____ / _____ | |
| **OPV1:** | _____ / _____ / _____ | |
| **DTP 2:** | _____ / _____ / _____ | |
| **OPV2:** | _____ / _____ / _____ | |
| **DTP 3:** | _____ / _____ / _____ | |
| **OPV3:** | _____ / _____ / _____ | |
| **Measles:** | _____ / _____ / _____ | |

## *SUPERVISOR*

Received all vaccines, BCG - measles as shown on card? (can miss OPV0)

Yes 1 No 0

If yes, write the oldest age at which the child received vaccines, or `44´ if there are no dates

with _____months

**9 Child aged 12 - 23 months received all vaccines <u>≤</u> 11 months of age?**

| | |
|---|---|
| Yes | 1 |
| No | 0 |
| skipped this question | S |
| < 12 meses | S |

## DIARRHOEA

| | *TREATMENT DIARRHEA* | skip |
|---|---|---|
| 10 | **Has (name) had diarrhoea in the last 2 weeks?** | |
| | yes | 1 |
| | no | 0 **>--13** |
| | DK | 2 **>--13** |
| 11 | **What was given to treat the diarrhoea?** | |
| | **Anything else?** | |
| | Circle each mentioned | |
| | nothing | a |
| | ORS | b |
| | cereal-based gruel or gruel made from roots | c |
| | medicinal tablet or syrup | d |
| | intravenous ORS | e |
| | locally defined acceptable fluids | f |
| | _____ Outro (especifica) | x |
| | DK | z |

| | ***SUPERVISOR*** | |
|---|---|---|
| 12 | mentioned b or c | Yes 1<br>No 0 |
| | skipped question x | skip S |

| | *PREVENTION DIARRHEA* | |
|---|---|---|
| 13 | **How do you think you can prevent diarrhoea in your child?** | |
| | **Anything else?** | |
| | Circle each mentioned | |
| | wash hands | a |
| | use latrine | b |
| | keep food clean | c |
| | drink clean / boiled / filtered water | d |
| | _____ Other (specify) | x |
| | DK | z |

| | ***SUPERVISOR*** | |
|---|---|---|
| 14 | | mentioned none 0<br>mentioned 1 1<br>mentioned 2 or + 2 |

## ALRI

| | | skip |
|---|---|---|
| 15 | **At any time did (name) have a cough with rapid breathing or difficulty in breathing?** | |
| | yes | 1 |
| | no | 0 **>--18** |
| | DK | 2 **>--18** |
| 16 | **Where did you go for advice or treatment for this cough and rapid / difficult breathing?**<br>**Anywhere else?**<br>circle all mentioned | |
| | **Health Facility** | |
| | _____ Other (specify) | a |
| | **Community** | |
| | APE | b |
| | Activista | c |
| | traditional doctor | d |
| | _____ Other (specify) | x |
| | Didn´t seek treatment | y |
| | DK | z |

***SUPERVISOR***

| | | |
|---|---|---|
| 17 | Sought treatment only at a health facility (only a) | 1 |
| | Sought treatment only in the community (only b-d) | 0 |
| | Sought treatment in the community and in health facility | 1 |
| | Didn´t seek treatment | 0 |
| | DK | 0 |
| | skipped this question | S |

skip skip

## MALARIA

skip

| | | |
|---|---|---|
| 18 | **Did (name) have an illness with fever in the last 2 weeks?** | |
| | yes | 1 |
| | no | 0 **>--22** |
| | DK | 2 **>--22** |
| 19 | **Did you take (name) to a health facility?** | |
| | yes | 1 |
| | no | 0 **>--22** |
| 20 | **How long after noticing the fever did you take (name) to the health facility?** | |
| | same day | 0 |
| | next day | 1 |
| | 2 days after | 2 |
| | 3 or more days after | 3 |

***SUPERVISOR***

| | | |
|---|---|---|
| 21 | Sought treatment within 48 hours (only 0 - 1) | 1 |
| | Sought treatment after 48 hours (only 2-3) | 0 |
| | Didn´t take to Health Facility | 0 |
| | skipped question 10 | S |

| | | skip |
|---|---|---|
| **22** | **In general, which symptoms would make you take (name) to the health facility?**<br><br>circle all mentioned<br><br>**Others?** | |
| | not eating / drinking | a |
| | getting worse despite homecare | b |
| | fever | c |
| | rapid breathing | d |
| | difficulty breathing | e |
| | blood in stools | f |
| | drinks with difficulty | g |
| | diarrhoea | h |
| | _____ Other (specify) | x |
| | doesn´t take child to health post | y |
| | DK | z |

| | | | skip |
|---|---|---|---|
| | ***SUPERVISOR*** | | |
| **23** | answered 0 - 1 (from a - h) above | 0 | |
| | answered 2+ (from a - h) above | 1 | |

## PRENATAL CONTROL

skip

**24** **Did you go to antenatal consults when you were pregnant with (name)?**

If yes:

**Who did you see?**

**Anyone else?**

| | | |
|---|---|---|
| **Health Professional** | | |
| Doctor | a | **>--26** |
| MCH nurse | b | **>--26** |
| midwife | c | **>--26** |
| **Community** | | |
| TBA | d | **>--26** |
| sister-in-law | e | **>--28** |
| Activista | f | **>--28** |
| _____ Other (specify) | x | **>--28** |
| Didn´t go | z | **>--28** |

**25** ***SUPERVISOR***

| | |
|---|---|
| mentioned one from a - d | Yes 1 |
| | No 0 |

**26** **How many times did you see this person during your pregnancy?**

Number of times: _____

**27** ***SUPERVISOR***

| | |
|---|---|
| # mentioned 0 - 1 | 0 |
| # mentioned 2+ | 1 |
| skipped this question | S |

**28** **When you were pregnant with (name), how many tetanus injections did you receive?**

Number of injections: _____

DK 99

**29** ***SUPERVISOR***

| | |
|---|---|
| # injections 0 -1 | 0 |
| # injections 2+ | 1 |

## PRENATAL CONTROL

| | | |
|---|---|---|
| **30** | **Which symptoms would cause you to seek help during pregnancy, delivery and postpartum?**<br><br>**Others?** | |
| | **Pregnancy:-** | |
| | heamorrage / excessive bleeding | a |
| | water breaking long before delivery | b |
| | generalised oedema - swelling of body/face/hands | c |
| | fever | d |
| | shortness breath | e |
| | transverse presentation | f |
| | STD | g |
| | anaemia | h |
| | swollen abdomen | I |
| | reduced fetal movement, 4th-5th month | J |
| | **During delivery:-** | |
| | delay in delivery | k |
| | pelvic presentation | l |
| | cord prolapse | m |
| | presentation of arm first | n |
| | placenta retained | o |
| | **Postpartum:-** | |
| | heamorrage / excessive bleeding | p |
| | fever | Q |
| | smelly vaginal discharge | r |
| | _____ Other (specify) | x |
| | DK | z |

| | | |
|---|---|---|
| | ***SUPERVISOR*** | |
| **31** | | answered 0 (from a - r) above 0<br>answered 1 - 2 (from a - r) above 0<br>answered 3 or more (from a - r) above 1 |

## DELIVERY

**32 Who assisted with the delivery of (name)?**

**Anyone else?**

| | |
|---|---|
| **Health Professional** | |
| Doctor | a |
| MCH nurse | b |
| midwife | c |
| **Community** | |
| TBA | d |
| sister-in-law | e |
| Activista | f |
| _____ Other (specify) | x |

***SUPERVISOR***

**33** mentioned at least one from a - d — Yes 1 / No 0

**34 When you were pregnant with (name) what did you plan in preparation for the birth?**

**Anything else?**

| | |
|---|---|
| who will assist with the delivery | a |
| where to give birth | b |
| what to do in case of emergency | c |
| bought razor | d |
| bought soap | e |
| saved money for an emergency | f |
| bought capulanas | g |
| bought food | h |
| _____ Other (specify) | x |
| didn´t make any plan | z |

***SUPERVISOR***

**35** mentioned 3 or more preparations, a - e — Yes 1 / No 0

## CHILD SPACING

| | | skip |
|---|---|---|
| **36** | **What methods do you know that women or men can use to avoid or postpone becoming pregnant?**<br><br>**Anything else?** | |
| | injections | a |
| | pill | b |
| | IUD | c |
| | condoms | d |
| | sterilization | e |
| | lactational amenorrhea | f |
| | abstinence | g |
| | traditional rope | h |
| | wait until child walks | I |
| | coitus interruptus | j |
| | _____ Other (specify) | x |
| | DK | z |

| | | |
|---|---|---|
| ***SUPERVISOR*** | | |
| **37** | 0-1 methods from a - e | 0 |
| | 2 or more methods from a - e | 1 |

| | | |
|---|---|---|
| **38** | **Are you pregnant now?** | |
| | Yes | 1 Finish |
| | No | 0 **>--39** |
| | DK | 2 **>--39** |
| **39** | **Do you want to have another child in the next 2 years?** | |
| | Yes | 1 Finish |
| | No | 0 **>--40** |
| | DK | 2 **>--40** |
| **40** | **Are you currently doing something or using any method to delay or avoid getting pregnant?** | |
| | If yes: **What is the main method you or your husband / partner are using now to avoid / postpone getting pregnant?** | |
| | no method | 1 |
| | injection | 2 |
| | pill | 3 |
| | IUD | 4 |
| | condoms | 5 |
| | sterilization | 6 |
| | lactational amenorrhea | 7 |
| | abstinence | 8 |
| | traditional rope | 9 |
| | wait until child walks | 10 |
| | coitus interruptus | 11 |
| | _____ Outro (especifica) | 12 |
| | DK | 13 |
| | ***SUPERVISOR*** | |
| **41** | uses a modern method (2 - 6) | Yes 1 |
| | | No 0 |
| | | skipped this question S |

**Thank you for your time**

# Appendix IV

# Memba and Nacala-a-Velha clusters

**Strength Project LQAS 2002 - Memba**

| | |
|---|---|
| sampling interval SA1: | **6,289** |
| random number for starting: | **4,774** |
| sampling interval SA2: | **921** |
| random number for starting: | **521** |
| sampling interval SA3: | **706** |
| random number for starting: | **42** |
| sampling interval SA4: | **2,031** |
| random number for starting: | **21** |

| | Posto Administrativo | Localidade | Regulo | nome povoação | # actual de habitantes | # (estimacao) de habitantes | # de aglomerado |
|---|---|---|---|---|---|---|---|
| | SUPERVISION AREA 1 | | | | | | |
| 1 | Memba | Memba-Sede | | Linhane (Ninhane) | 6,047 | 1,247 | 1 |
| 2 | Memba | Memba-Sede | | Micuta | 768 | 1,247 | 2 |
| 3 | Memba | Memba-Sede | | Funigo | 2,442 | 1,247 | 3 |
| ***4*** | ***Memba*** | ***Memba-Sede*** | | ***Piloto Imuene*** [1] | ***154*** | ***1,247*** | ***4*** |
| 5 | Memba | Memba-Sede | | Nahavara | 193 | 1,247 | 5 |
| 6 | Memba | Cava | | Metata | 722 | 1,190 | 6 |
| 7 | Memba | Cava | | Jamaroro | 956 | 1,190 | 7 |
| 8 | Memba | Cava | | Muhapo | 912 | 1,190 | 8 |
| 9 | Memba | Miaja | | Piloto | 335 | 1,203 | 9 |
| 10 | Memba | Miaja | | Mazilimane | 1,135 | 1,203 | 10 |
| 11 | Memba | Miaja | | Mutupelehia | 762 | 1,203 | 11 |
| 12 | Memba | Miaja | | Namatil | 803 | 1,203 | 12 |
| 13 | Memba | Miaja | | A.Chila/Namote 7 de Abril | 1,670 | 1,203 | 13 |
| 14 | Memba | Miaja | | Naphapa | 380 | 1,203 | 14 |
| 15 | Memba | Miaja | | Murripa | 502 | 1,203 | 15 |
| 16 | Memba | Niaca | | Niaca(B.Pinda Farol 99) | 2,133 | 1,170 | 16 |
| 17 | Memba | Niaca | | Fica | 907 | 1,170 | 17 |
| 18 | Memba | Niaca | | Niaca | 3,141 | 1,170 | 18 |
| 19 | Memba | Niaca | | Mhaia | 475 | 1,170 | 19 |

| | Posto Administrativo | Localidade | Regulo | nome povoação | # actual de habitantes | # (estimacao) de habitantes | # de aglomerado |
|---|---|---|---|---|---|---|---|
| | SUPERVISION AREA 2 | | | | | | |
| 1 | Chipene | Chipene-sede | | Nassone | 661 | 972 | 1 |
| 2 | Chipene | Chipene-sede | | Namaralo | 1,701 | 972 | 2 |
| 3 | Chipene | Chipene-sede | | Machacassana | 637 | 972 | 3 |
| 4 | Chipene | Chipene-sede | | Miteve | 872 | 972 | 4 |
| 5 | Chipene | Chipene-sede | | Namahaca | 413 | 972 | 5 |
| 6 | Chipene | Chipene-sede | | Tire | 433 | 972 | 6 |
| 7 | Chipene | Chipene-sede | | Anihequehi | 3,384 | 972 | 7 |
| 8 | Chipene | Chipene-sede | | Chipene | 2,015 | 972 | 8 |
| 9 | Chipene | Chipene-sede | | Munaua | 424 | 972 | 9 |
| 10 | Chipene | Chipene-sede | | Nantaca | 970 | 972 | 10 |
| 11 | Chipene | Chipene-sede | | Naheco | 2,505 | 972 | 11 |
| 12 | Chipene | Chipene-sede | | Naheco | 2,505 | 972 | 12 |
| 13 | Chipene | Chipene-sede | | Mucuia | 1,091 | 972 | 13 |
| ***14*** | ***Chipene*** | ***Chipene-sede*** | | ***Nhassa [2]*** | ***589*** | ***972*** | ***14*** |
| 15 | Chipene | Chipene-sede | | Tataculo | 598 | 972 | 15 |
| ***16*** | ***Chipene*** | ***Chipene-sede*** | | ***Niphive [3]*** | ***140*** | ***972*** | ***16*** |
| 17 | Chipene | Chipene-sede | | Nahavarra | 871 | 972 | 17 |
| 18 | Chipene | Chipene-sede | | Napila | 171 | 972 | 18 |
| 19 | Chipene | Chipene-sede | | Namithoco | 25 | 972 | 19 |
| | SUPERVISION AREA 3 | | | | | | |
| ***1*** | ***Lurio*** | ***Lurio-sede*** | | ***Murecule [4]*** | ***641*** | ***838*** | ***1*** |
| ***2*** | ***Lurio*** | ***Lurio-sede*** | | ***Murecule [4]*** | ***641*** | ***838*** | ***2*** |
| 3 | Lurio | Lurio-sede | | Cucune | 1,231 | 838 | 3 |
| 4 | Lurio | Lurio-sede | | Talalane | 469 | 838 | 4 |
| 5 | Lurio | Lurio-sede | | Mitopue | 1,061 | 838 | 5 |
| 6 | Lurio | Lurio-sede | | 7 de Abril 1,2 | 372 | 838 | 6 |
| 7 | Lurio | Lurio-sede | | Josina Machel | 693 | 838 | 7 |
| 8 | Lurio | Lurio-sede | | Josina Machel | 693 | 838 | 8 |
| 9 | Lurio | Lurio-sede | | 10 Maio | 1,039 | 838 | 9 |
| 10 | Lurio | Lurio-sede | | Serrissa | 1,499 | 838 | 10 |
| 11 | Lurio | Lurio-sede | | Caca | 371 | 838 | 11 |
| 12 | Lurio | Lurio-sede | | Messerege | 251 | 838 | 12 |
| 13 | Lurio | Lurio-sede | | Munar | 442 | 838 | 13 |
| 14 | Lurio | Lurio-sede | | Munar | 442 | 838 | 14 |
| 15 | Lurio | Lurio-sede | | Nicompene | 1,351 | 838 | 15 |
| 16 | Lurio | Lurio-sede | | Pavala | 766 | 838 | 16 |
| 17 | Lurio | Lurio-sede | | Naula | 777 | 838 | 17 |
| 18 | Lurio | Lurio-sede | | Chaonde | 1,943 | 838 | 18 |
| ***19*** | ***Lurio*** | ***Lurio-sede*** | | ***Rota de Macuculuco5*** | ***508*** | ***838*** | ***19*** |

| Posto Administrativo | Localidade | Regulo | nome povoação | # actual de habitantes | # (estimacao) de habitantes | # de aglomerado |
|---|---|---|---|---|---|---|
| | | | | | | |

| | Posto Administrativo | Localidade | Regulo | nome povoação | # actual de habitantes | # (estimacao) de habitantes | # de aglomerado |
|---|---|---|---|---|---|---|---|
| | SUPERVISION AREA 4 | | | | | | |
| 1 | Mazue | Mazue-Sede | | Ecopo | 1,376 | 851 | 1 |
| 2 | Mazue | Mazue-Sede | | Munamua | 1,170 | 851 | 2 |
| 3 | Mazue | Mazue-Sede | | Caniculo | 155 | 851 | 3 |
| ***4*** | ***Mazue*** | ***Mazue-Sede*** | | ***Namuana*** [6] | ***1,603*** | ***851*** | ***4*** |
| ***5*** | ***Mazue*** | ***Mazue-Sede*** | | ***Mecutane*** [7] | ***1,113*** | ***851*** | ***5*** |
| 6 | Mazue | Mazue-Sede | | Naculue | 759 | 851 | 6 |
| 7 | Mazue | Mazue-Sede | | Sarima | 746 | 851 | 7 |
| 8 | Mazue | Mazue-Sede | | Namajuba | 869 | 851 | 8 |
| 9 | Mazue | Mazue-Sede | | Meputone | 514 | 851 | 9 |
| 10 | Mazue | Mazue-Sede | | Alto-Nacala | 349 | 851 | 10 |
| 11 | Mazue | Mazue-Sede | | Mutorone | 918 | 851 | 11 |
| 12 | Mazue | Mazue-Sede | | Nagomo | 933 | 851 | 12 |
| 13 | Mazue | Mazue-Sede | | A.Naipo | 776 | 851 | 13 |
| 14 | Mazue | Mazue-Sede | | Mulojo | 687 | 851 | 14 |
| 15 | Mazue | Mazue-Sede | | A.Quali | 547 | 851 | 15 |
| 16 | Mazue | Simuco | Nampuita | Muruntane | 863 | 801 | 16 |
| 17 | Mazue | Simuco | Nampuita | Simuco | 2,676 | 801 | 17 |
| 18 | Mazue | Simuco | Nampuita | Nathutho | 457 | 801 | 18 |
| ***19*** | ***Mazue*** | ***Simuco*** | ***Nampuita*** | ***Mutepo 1,2*** [8] | ***1,187*** | ***801*** | ***19*** |
| | Total | | | | 77,330 | 73,265 | |
| | Count | | 4 | 76 | 76 | | 76 |

[1] - Piloto Imuene não existe, então visitaram MUTIANHERE

[2] - Nhassa não tem accesso transporte, então visitaram MISSURI

[3] - Niphive não tem accesso transporte, então visitaram NAMPACO

[4] - Murecule não tem accesso transporte, então visitaram SAALA

[5] - Roda de Macuculuco não tem nenhum população, então visitaram MITHETHE

[6] - Namuana não existe, então visitaram MUHARARAYA

[7] - Mecutane, oregulo ficou doente e não deu permissão de trabalhar, então visitaram NIVEDA

[8] - Mutepo não tem accesso transporte, então visitaram NAPAI

# Appendix V

# Original community information

# Appendix VI

# The survey teams

## LQAS field survey teams

| Supervisor | Enumerator |
|---|---|
| Momade Rafique Daudo | Justina de Jesus |
| | Ana Paula cortez |
| | Vernisio Pinto saguate |
| | Saide Jalal |
| Amade Champion | Munahapina Alberto |
| | Anunciação Correia |
| | Pedro Marcelino |
| | Adelina Xavier |

| Drivers |
|---|
| Ismael Amisse Muinde |
| Carlos Vale |

| Data Entry |
|---|
| Sylvi Hill |

| Logistics |
|---|
| Isabel António José Bahane |
| Joly Muchawa |

# Appendix VII

# Events Calendar for estimating age

**LQAS - Memba e Nacala-a-Velha**
**Guiao dos meses**

| Ano | Mes | Acontecimentos | Idade agora |
|---|---|---|---|
| 2002 | Agosto | Tempo de ventania / Cussi | 0 |
| | Julho | Limpeza de cajueiros | 1 |
| | Junho | Festa das crianças / Festa de Indepedencia Nacional | 2 |
| | Maio | Festa dos Trabalhadores (1 de Maio) / Abertura de hortas | 3 |
| | Abril | Festa de Mulher Moçambicana (OMM) | 4 |
| | Março | Tempo de comer maçaroca | 5 |
| | Fevereiro | Dia dos Herois Moçambicano / Tempo de comer feijao namurua | 6 |
| | Janeiro | Ano Novo | 7 |
| 2001 | Dezembro | Recem - Nascido / Ramadan | 8 |
| | Novembro | Fim de castanhas / manifestacao da Renamo | 9 |
| | Outubro | Inicio de mangas e caju / festa dos professores | 10 |
| | Setembro | Descasque de mandioca / (dia 7) Acordos de Lusaka / (dia 25) Dia das Forças Armadas | 11 |
| | Agosto | Tempo de ventania / Cussi | 12 |
| | Julho | Limpeza de cajueiros | 13 |
| | Junho | Independencia 25 anos / (dia 1) Dia da crianca / Inicio de Recenciamento | 14 |
| | Maio | Abertura de hortas / Festa dos Trabalhadores | 15 |
| | Abril | Festa de OMM / Mulher Mocambicana | 16 |
| | Março | Tempo de comer macaroca | 17 |
| | Fevereiro | Tempo de comer nanrua / Herois Mocambicanos | 18 |
| | Janeiro | Inicio das chuvas / Ano Novo / Ramadan | 19 |
| 2000 | Dezembro | Natal / elecoes presidenciais (dia 4 - 5) | 20 |
| | Novembro | Fim de castanhas | 21 |
| | Outubro | Inicio de mangas e caju / (dia 12) Festa dos Professores | 22 |
| | Setembro | Descasque de mandioca / (dia 7) Acordos de Lusaka / (dia 25) Dia das Forças Armadas | 23 |
| | **FORA DE IDADE** | | |
| | Agosto | Tempo de ventania / Cussi | 24 |

# Appendix VIII

# Diskette of Original Data in Excel

# Appendix IX

# LQAS table - Decision Rules for sample sizes of 12 – 30 and Coverage Targets / Average of 10% - 95%

# Appendix X

# Summary Tabulation Tables

Summary Tabulation Table: Monitoring survey Children 0 - 23 months

Key:-

- above average and target coverage
- above average coverage but below target coverage
- below both average and target coverage
- above target coverage but below average coverage

| # | Indicator | Total correct in each SA / Decision rule | | | | | | | | | | | | Total correct in Program | Sample size | | | | | | Total sample size in Program | Average Coverage = Total correct / Sample size | Coverage Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sede | | GerGer | | Lurio | | Chipene | | Mazua | | Memba | | | Sede | GerGer | Lurio | Chipene | Mazua | Memba | | | |
| **BREASTFEEDING** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | early breastfeeding (within 8 hours) | 17 | | 15 | | 14 | | 15 | | 14 | | 14 | | **89** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 78% | 73%[a] |
| | | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | 13 | 12 | | | | | | | | | | |
| 2 | had colostrum | 15 | | 15 | | 13 | | 15 | | 13 | | 13 | | **85** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 75% | 83%[b] |
| | | 12 | 14 | 12 | 14 | 12 | 14 | 12 | 14 | 12 | 14 | 12 | 14 | | | | | | | | | | |
| **DIARRHEA** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | diarrhea in last 2 weeks - treated with ORS or community based fluids | 12 | | 14 | | 14 | | 10 | | 14 | | 10 | | **74** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 65% | 80% |
| | | 10 | 13 | 10 | 13 | 10 | 13 | 10 | 13 | 10 | 13 | 10 | 13 | | | | | | | | | | |
| 2 | know 2+ methods of prevention | 9 | | 14 | | 7 | | 11 | | 8 | | 11 | | **60** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 53% | 64%[c] |
| | | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 10 | | | | | | | | | | |

| # | Indicator | Total correct in each SA / Decision rule | | | | | | | | | | | | Total correct in Program | Sample size | | | | | | Total sample size in Program | Average Coverage = Total correct / Sample size | Coverage Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sede | | GerGer | | Lurio | | Chipene | | Mazua | | Memba | | | Sede | GerGer | Lurio | Chipene | Mazua | Memba | | | |
| **ALRI** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | child had cough with difficult/rapid breathing - treatment in health facility | 9 | | 13 | | 13 | | 11 | | 9 | | 16 | | **71** | 19 | 19 | 19 | 18 | 19 | 19 | **113** | 63% | 85% |
| | | 10 | 14 | 10 | 14 | 10 | 14 | 10 | 14 | 10 | 14 | 10 | 14 | | | | | | | | | | |
| **MALARIA** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | fever in last 2 weeks - sought treatment within 48 hours | 7 | | 3 | | 7 | | 7 | | 4 | | 8 | | **36** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 32% | 80% |
| | | 4 | 13 | 4 | 13 | 4 | 13 | 4 | 13 | 4 | 13 | 4 | 13 | | | | | | | | | | |
| **IMCI** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | knowledge of 2+ danger signs | 14 | | 17 | | 16 | | 15 | | 16 | | 14 | | **92** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 81% | 82%[d] |
| | | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | | | | | | | | | | |
| **ANTENATAL CARE** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | trained health professional seen for prenatal consult | 17 | | 15 | | 12 | | 16 | | 12 | | 15 | | **87** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 76% | 85% |
| | | 13 | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 | 14 | 13 | 14 | | | | | | | | | | |

| # | Indicator | Total correct in each SA / Decision rule | | | | | | | | | | | | Total correct in Program | Sample size | | | | | | Total sample size in Program | Average Coverage = Total correct / Sample size | Coverage Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sede | | GerGer | | Lurio | | Chipene | | Mazua | | Memba | | | Sede | GerGer | Lurio | Chipene | Mazua | Memba | | | |
| 2 | trained health professional seen 2+ times | 14 | | 14 | | 7 | | 14 | | 9 | | 11 | | **69** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 61% | 85% |
| | | 10 | 14 | 10 | 14 | 10 | 14 | 10 | 14 | 10 | 14 | 10 | 14 | | | | | | | | | | |
| 3 | 2+ TT vaccinations received | 15 | | 12 | | 3 | | 12 | | 8 | | 8 | | **58** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 51% | 80% |
| | | 8 | 13 | 8 | 13 | 8 | 13 | 8 | 13 | 8 | 13 | 8 | 13 | | | | | | | | | | |
| 4 | know 3+ danger signs during pregnancy, delivery and post partum | 18 | | 18 | | 14 | | 12 | | 11 | | 9 | | **82** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 72% | 50% |
| | | 12 | 7 | 12 | 7 | 12 | 7 | 12 | 7 | 12 | 7 | 12 | 7 | | | | | | | | | | |

| # | Indicator | Total correct in each SA / Decision rule | | | | | | | | | | | | Total correct in Program | Sample size | | | | | | Total sample size in Program | Average Coverage = Total correct / Sample size | Coverage Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sede | | GerGer | | Lurio | | Chipene | | Mazua | | Memba | | | Sede | GerGer | Lurio | Chipene | Mazua | Memba | | | |
| **DELIVERY** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | trained health personnel assisted delivery | 8 | | 13 | | 1 | | 5 | | 5 | | 7 | | **39** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 34% | 50% |
| | | 4 | 7 | 4 | 7 | 4 | 7 | 4 | 7 | 4 | 7 | 4 | 7 | | | | | | | | | | |
| 2 | 3+ birth plans prepared | 0 | | 1 | | 1 | | 2 | | 0 | | 1 | | **5** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 4% | 10% |
| | | na | na | na | na | na | na | na | na | na | na | na | na | | | | | | | | | | |
| **CHILD SPACING** | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | know 2+ modern methods of family planning | 6 | | 4 | | 3 | | 3 | | 5 | | 5 | | **26** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 23% | 50% |
| | | 2 | 7 | 2 | 7 | 2 | 7 | 2 | 7 | 2 | 7 | 2 | 7 | | | | | | | | | | |
| 2 | woman who doesn´t want child in next 2 years who uses modern method of FP | 3 | | 4 | | 5 | | 1 | | 1 | | 3 | | **17** | 19 | 19 | 19 | 19 | 19 | 19 | **114** | 15% | 25% |
| | | na | 2 | na | 2 | na | 2 | na | 2 | na | 2 | na | 2 | | | | | | | | | | |

[a] - There is no target percentage written in the project proposal for this indicator, and this figure is taken from the baseline Memba KPC done in December 2001 and the Nacala-a-Velha final KPC in April 2001 and is an average from those two results.

[b] - There is no target percentage written in the project proposal for this indiator, and this figure is taken from the baseline Memba KPC and the Nacala-a-Velha final KPC. It is the higher result and is from Nacala-a-Velha.

[c] - There is no target percentage written in the project proposal for this indiator, and this figure is taken from the baseline Memba KPC.

[d] - There is no target percentage written in the project proposal for this indiator, and this figure is taken from the baseline Memba KPC.